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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/704,848	11/02/2000	Mats Olsson	45051-00004	4869

7590 03/25/2004

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EXAMINER
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WIMER, MICHAEL C

ART UNIT	PAPER NUMBER
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2821

DATE MAILED: 03/25/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/704,848

Applicant(s)

OLSSON ET AL.

Examiner

Michael C. Wimer

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 23 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,2 and 4-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 20-23 is/are allowed.
- 6) ☒ Claim(s) 1,2,4,5,7-11,12,16/11,17-19 and 24 is/are rejected.
- 7) ☒ Claim(s) 13-15,16/13,16/14,16/15 and 18 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1,2,4,5,7-11,16/11,17-19 and 24 are rejected under 35 U.S.C. 102(b) as being anticipated by Pal et al (5572227).

Regarding Claims 1,2,4,5,7-11,16/11,17-19 and 24, Pal et al teach a multiband array antenna for use with portable hand-held radios (col. 1, lines 6-8), comprising a flexible antenna support composed of a planar portion of an insulator sheet 4 of Kapton™, specifically shown as planar in Figure 2, where the printed circuit antenna elements 1-3 are formed on the planar portion (see column 1, lines 51-57), and all resonant in respective bands and covered by a flexible radome 11, all arranged as claimed. The entire antenna including the housing 11 is deemed flexible because of its use on a hand held radio, and by virtue of the thin plastic material used in the substrate 4 and radome 11. The antennas are taught to be operational on L, S and UHF bands, as claimed, but may be frequency-scaled for almost any frequencies of operation (col. 2, lines 42-44). Ground terminals are near the connectors, and coaxial lead-outs are provided for each antenna band.

***Claim Rejections - 35 USC § 103***

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3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1,2,4,5,7-12,16/11,16/12,17-19 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over UK Pat. No. 2322011A (Pal et al) in view of Pal et al (5572227).

Regarding Claims 1,2,4,5,7-12,16/11,16/12,17-19 and 24, Pal et al (UK 2322011) also teaches a multiband antenna array 26,28 formed on a flexible dielectric substrate 24 and covered by a flexible, plastic housing/radome 42 and mounted on a portable radio 10, with ground portions on the networks 30,32 and fed with coaxial cables 34 and 38. It is obvious to the skilled artisan that the whip antenna formed by the flexible film and radome, combined, provide a flexible whip always desired in a portable transceiver. As to Claim 12, the radio 10 is built with a p.c. board and the cables are connected thereto. Pal et al ('227) is cited teaching the frequency bands recited to be obvious to the skilled artisan.

5. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pal et al. (UK Pat. No. 2322011A) in view of Pal et al. (5572227) as applied to claims 1,4 and 5 above, and further in view of Korisch (5926139).

Korisch is cited to show that an inverted-F antenna is a planar device formed on a substrate. It would have been obvious to the skilled artisan employ such an antenna in the Pal et al devices.

***Allowable Subject Matter***

6. Claims 13-15, 16/13, 16/14, 16/15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base
7. Claims 20-23 are allowed.

***Response to Arguments***

8. Applicant's arguments filed 12/23/2003 have been fully considered but they are not persuasive. Specifically, the added language stating that the "antennas are formed on 'at least one planar portion of' a common support element" still allows the claims to be read on a thin dielectric film, such as in Pal et al because it is true that both antennas are formed on a planar portion of the film, although the film is then rolled and fit inside a flexible dielectric housing. The claims as amended do not define over such a structure even though it defines a different type of antenna (e.g., a helix).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael C. Wimer whose telephone number is (571) 272-1833. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don K. Wong can be reached on (571) 272-1834. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Michael C. Wimer  
Primary Examiner  
Art Unit 2821

MCW  
03/03/2004